

REMARKS

The Advisory Action mailed February 4, 2004, has been received and reviewed. Claims 1-32 and 34-44 are currently pending in the application. Claims 1-32 and 34-44 stand rejected. Applicants have amended claims 1, 15, and 40, and respectfully request reconsideration of the application as proposed to be amended herein.

Applicants note that the Amendment Under 37 C.F.R. § 1.116 was not entered by the Examiner. As such, the amendments herein are relative to the listing of claims filed in the Amendment of July 23, 2003.

Finality of Office Action

Applicants respectfully submit that the finality of the previous Office Action was improper because, contrary to the Examiner's assertion, Applicants' previous amendments did not necessitate the new grounds of rejection. As explained in Applicants' response of July 28, 2003, the claims were amended to address typographical and spelling errors and to improve antecedent basis. Since the pending claims were substantively the same as the claims presented in the Amendment filed on January 21, 2003, the amendments filed on July 28, 2003, did not necessitate the new grounds of rejection.

The finality of the instant Office Action is also improper because the Examiner introduced a new ground of rejection in the Office Action of November 6, 2003, by rejecting claims 1-32 and 34-44 as being indefinite. No indefiniteness rejections of these claims were presented in previous Office Actions.

Since a final rejection is only proper when the claims have been twice rejected on the merits, the finality of the instant Office Action is improper and should be withdrawn. See M.P.E.P. § 706.07.

35 U.S.C. § 101 Rejections

The Examiner has indicated that claims 1 and 15 appear to be duplicative and, therefore, are subject to a new rejection under 35 U.S.C. § 101. Applicants have amended claim 1 and respectfully request that the rejection be withdrawn.

New Matter Rejection

The Examiner states that the proposed amendments raise issues of new matter under 35 U.S.C. § 112 because the phrase “remeltable to a pourable state” was cancelled. Advisory Action, p. 2. However, Applicants respectfully submit that removing this phrase does not raise issues of new matter because the as-filed claims did not include this limitation. In other words, this phrase was added to the claims by the Amendment filed on January 21, 2003. As such, the Examiner’s initial search prior to that amendment should have included this subject matter and reexamination of the claims should not be necessary.

The Examiner also states that Applicants have not pointed out a basis for the proposed new language. Advisory Action, p. 2. However, as explained above, the as-filed claims did not recite this limitation and, therefore, the removal of this limitation does not constitute new matter.

35 U.S.C. § 112 Claim Rejections

Claims 1-32 and 34-44 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Applicants respectfully traverse this rejection, as hereinafter set forth.

The Examiner states that the claims can not be understood because “with 99% of everything specified, the scope of ‘comprising’ makes no sense whatever. It is inconsistent with a correct recitation of 99% of the ingredients. Thus it is not clear whether the amounts are not actually required or if the claims scope is actually intended to be ‘consisting essentially of’ or ‘consisting of.’” Office Action of November 6, 2003, p. 4. However, the Examiner has provided no support for his implication that composition claims that recite a large percentage of their ingredients are restricted to using “consisting essentially of” or “consisting of” as transitional phrases.

Contrary to the Examiner’s assertion, the use of the term “comprising” is not restricted to situations where unspecified ingredients are present in major amounts. This is evidenced by the discussion in the M.P.E.P. of the term “comprising,” which states that the term leaves “the claim

open for the inclusion of unspecified ingredients even in major amounts.” M.P.E.P. § 2111.03 (emphasis added). The use of the word “even” in this definition implies that “comprising” is also properly used in claims that include unspecified ingredients in minor amounts.

The Examiner states that this point is further illuminated in claim 23. However, the Examiner appears to have adopted an erroneous reading of claim 23. Claim 23 depends from claim 15 and, as such, further limits claim 15. Claim 23 recites that the one or more organic binders recited in claim 15 comprise at least one heterocyclic compound. In other words, claim 23 further limits the one or more organic binders of claim 15 to be at least one heterocyclic mononitro aromatic compound or heterocyclic dinitro aromatic compound.

Applicants respectfully submit that the claims are definite, as required by 35 U.S.C. § 112, second paragraph, because the scope of the claims would be clear to a hypothetical person possessing the ordinary level of skill in the pertinent art. M.P.E.P. § 2171. The definiteness of the claim language is analyzed in light of, *inter alia*, the content of the particular application and the claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made. M.P.E.P. § 2173.02. The specification clearly discloses that the explosive composition includes 30 weight percent to 70 weight percent of one or more organic binders selected from the group consisting of mononitro aromatics and dinitro aromatics. See, for example, paragraphs [0010] and [0019]-[0025]. The explosive composition also includes 30 weight percent to 70 weight percent of one or more inorganic oxidizers. See for example, paragraphs [0009], [0030], and [0031]. In combination, the organic binder and the inorganic oxidizer comprise at least 95 weight percent of the melt-pourable explosive composition. See, for example, paragraph [0010].

Since the scope of the claims would be clear to one of ordinary skill in the art, Applicants respectfully submit that the indefiniteness rejection is improper and should be withdrawn.

The Examiner also states that the claims are indefinite because they include inconsistent terminology. Applicants have amended the claims and request that the rejection be withdrawn.

The Examiner also states that since N-methyl-nitroaniline is recited as a processing aid, the claims are indefinite because it is unclear whether the N-methyl-nitroaniline is a processing aid or an organic binder. Office Action of November 6, 2003, p. 5. While nitroaniline

compounds may be used as the organic binder or as the processing aid, this does not render the claims indefinite because the specification clearly describes the organic binders and the processing aids such that one of ordinary skill in the art would be apprised of the scope of the claims. See, for example, paragraphs [0014] and [0026]-[0029]. As such, the claims are clear and Applicants respectfully request that the indefiniteness rejection be withdrawn.

35 U.S.C. § 103(a) Obviousness Rejections

Obviousness Rejection Based on U.S. Patent No. 5,728,969 to Otani et al. in view of U.S. Patent No. 5,997,668 to Aubert et al., U.S. Patent No. 5,552,000 to Shepherd and French Patent No. 465,082

Claims 1-32 and 34-44 stand rejected under 35 U.S.C. § 103(a) ("Section 103") as being unpatentable over U.S. Patent No. 5,728,969 to Otani *et al.* ("Otani") in view of U.S. Patent No. 5,997,668 to Aubert *et al.* ("Aubert"), U.S. Patent No. 5,552,000 to Shepherd ("Shepherd"), and French Patent No. 465,082 to Tarnowski ("Tarnowski"). Applicants respectfully traverse this rejection, as hereinafter set forth.

M.P.E.P. 706.02(j) sets forth the standard for a Section 103 rejection:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The obviousness rejection of claims 1-32 and 34-44 is improper because the cited references do not teach or suggest all the claim limitations and do not provide a motivation to combine to produce the claimed invention.

Otani discloses a granular explosive that includes from 3-50% by weight of an aromatic dinitro compound and from 50-97% by weight of porous prill ammonium nitrate. The dinitro compound is adsorbed into the ammonium nitrate. The granular explosive is formed by mixing the porous prill ammonium nitrate with the aromatic dinitro compound in a mixer.

Aubert discloses a method of casting 1,3,3-trinitroazetidine ("TNAZ") that includes adding a nitro-substituted aromatic amine to a melt including TNAZ. The nitro-substituted aromatic amine is a mono-, di-, or tri-nitro or -amino compound. The TNAZ is present in an amount ranging from 75-95% and the nitro-substituted aromatic amine is present in an amount ranging from 5-25% by weight.

Shepherd discloses an explosive composition that includes a non-aqueous emulsion of a nitrosolution of an organic self-explosive in a surfactant-in-fuel dispersion. The explosive composition is formed by dissolving the organic self-explosive in a nitrosolvent to form a supersaturated nitrosolution. The organic self-explosive is present in the explosive composition from above 50-97% by weight and the nitrosolvent is present from 5-15%. The explosive composition includes a nitramine and, optionally, a nitroaromatic compound.

Tarnowski discloses an explosive powder that includes metallic aluminum, an aromatic nitro-hydrocarbon, and ammonium perchlorate. The explosive powders include 12-15% trinitrobenzene, 40-75% ammonium perchlorate, and 30% potassium nitrate.

The cited references do not teach or suggest all the limitations of claim 1 because they do not teach the limitation of "wherein at least 95 weight percent of the melt-pourable explosive composition comprises a combination of the one or more organic binders and the one or more inorganic oxidizers." None of the cited references teach that at least 95 weight percent of the explosive composition includes organic binders and inorganic oxidizers.

The Examiner states that Otani teaches "the basic invention of melt-cast explosives with dinitro aromatics, oxidizer, etc." Office Action of November 6, 2003, p. 2. However, Otani discloses that its granular explosive is produced by adsorbing the aromatic dinitro compound into the ammonium nitrate and, as such, does not disclose a melt-pour explosive. Therefore, Otani also does not teach or suggest that "the melt-pourable explosive composition is pourable at a temperature in a range of 80°C to 115°C," as recited in claim 1.

The cited references also do not provide a motivation to combine to produce the claimed invention. To provide a motivation or suggestion to combine, the prior art or the knowledge of a person of ordinary skill in the art must “suggest the desirability of the combination” or provide “an objective reason to combine the teachings of the references.” M.P.E.P. § 2143.01. The Examiner states that Otani teaches “the basic invention of melt-cast explosives with dinitro aromatics, oxidizer, etc.” Office Action of November 6, 2003, p. 2. The Examiner then relies on Aubert, Shepherd, and Tarnowski as teaching that “variation of the various notoriously well known additives, amounts and so forth would have been obvious. It is well settled that optimizing a result effective variable is well within the expected ability of a person of ordinary skill in the subject art.” *Id.* However, this statement by the Examiner is conclusory and is not an objective reason that supports combining the cited references to produce the claimed invention.

As discussed above, Otani discloses that its granular explosive is formed by adsorbing the aromatic dinitro compound into the ammonium nitrate and, therefore, Otani does not disclose a melt-pour explosive. Nothing in Otani suggests the desirability of formulating its granular explosive to be a melt-pour explosive. As such, the Examiner’s stated motivation to combine Otani with Aubert, Shepherd, and Tarnowski to produce the claimed invention is improper.

In addition, one of ordinary skill in the art would not be motivated to combine Aubert, Shepherd, and Tarnowski with Otani because many of the cited references do not teach or suggest forming a melt-pour explosive. Shepherd, Tarnowski, and Otani do not suggest preparing their respective explosive compositions by melt-pour processes and, therefore, would not motivate one of ordinary skill in the art to combine with Aubert to produce the claimed invention. Out of the cited references, only Aubert discloses a melt-pour explosive. However, the melt-pour explosive in Aubert includes from 5-25% by weight of the nitro-substituted aromatic amine and from 75-95% by weight TNAZ and there is no suggestion in Aubert to adjust the amounts of these components. Furthermore, nothing in Aubert provides a motivation for using a similar formulation in a granular explosive, such as the granular explosive in Otani.

Furthermore, even if the cited references were combined, the claimed invention would not be produced because the limitation of “wherein at least 95 weight percent of the melt-pourable explosive composition comprises a combination of the one or more organic

binders and the one or more inorganic oxidizers” would not be taught or suggested, as discussed above.

Since the cited references do not teach or suggest all the limitations of claim 1 and do not provide a motivation to combine, Applicants respectfully submit that the obviousness rejection is improper and should be withdrawn.

Claims 2-14 and 43 are allowable, *inter alia*, as depending from an allowable base claim.

The cited references also do not teach or suggest all the limitations of independent claims 15 and 40 for substantially the same reasons discussed above in the obviousness rejection of claim 1. Specifically, the cited references do not teach the limitation of “wherein at least 95 weight percent of the melt-pourable explosive composition comprises a combination of the one or more organic binders and the one or more inorganic oxidizers,” as recited in claims 15 and 40. The cited references also do not provide a motivation to combine to produce the inventions of claims 15 and 40 for substantially the same reasons discussed above in the obviousness rejection of claim 1.

Since the cited references do not teach or suggest all the limitations of claim 15 and do not provide a motivation to combine, Applicants respectfully submit that the obviousness rejection is improper and should be withdrawn.

Claims 16-32 and 34-39 are allowable, *inter alia*, as depending from an allowable base claim.

Since the cited references do not teach or suggest all the limitations of claim 40 and do not provide a motivation to combine, Applicants respectfully submit that the obviousness rejection is improper and should be withdrawn.

Claims 41, 42, and 44 are allowable, *inter alia*, as depending from an allowable base claim.

ENTRY OF AMENDMENTS

The proposed amendments to claims 1, 15, and 40 above should be entered by the Examiner because the amendments are supported by the as-filed specification and drawings and do not add any new matter to the application.

CONCLUSION

Claims 1-32 and 34-44 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, he is respectfully invited to contact Applicants' undersigned attorney.

Respectfully submitted,



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